Firebase

Embedded Systems

FIREBASE AUTHENTICATION

Andorid Studio

Email Authentication

AKENNAF Ayoub

Implementation Guide

Firebase:

Firebase is an excellent backend option for app development. The Google-owned platform has evolved over the years to power lots of apps with cutting-edge features. The platform offers many tools and services that allow developers to perform tasks faster a

➢ Firebase Authentication

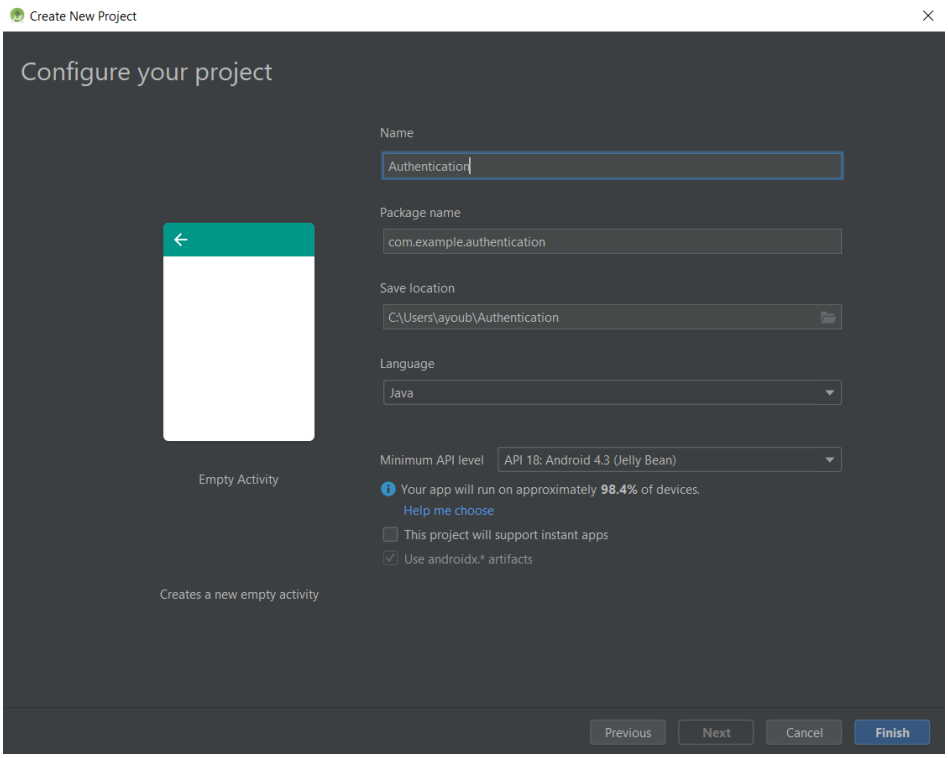
Firebase Authentication provides backend services, easy-to-use SDKs, and ready-made UI libraries to authenticate users to your app. It supports authentication using passwords, phone numbers, popular federated identity providers like Google, Facebook and Twitter, and more.

Firebase Authentication integrates tightly with other Firebase services, and it leverages industry standards like OAuth 2.0 and OpenID Connect, so it can be easily integrated with your custom backend.

Simple Authentication App with email:

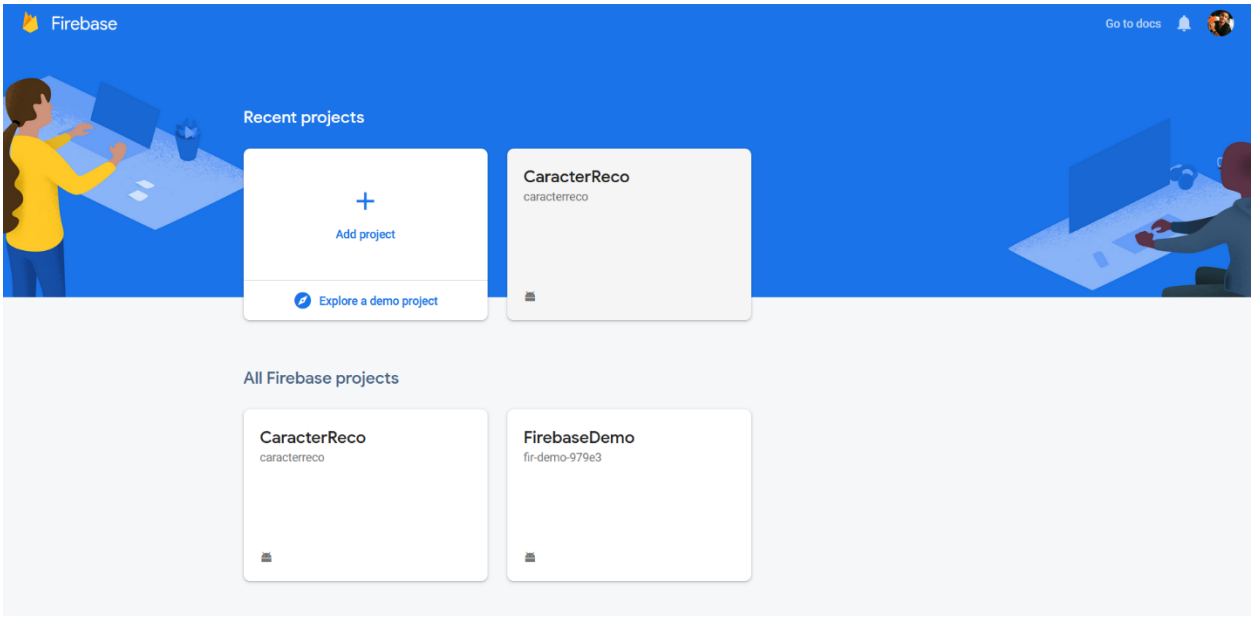
➢ Step1: Create android studio project

Create a simple project with an empty activity:

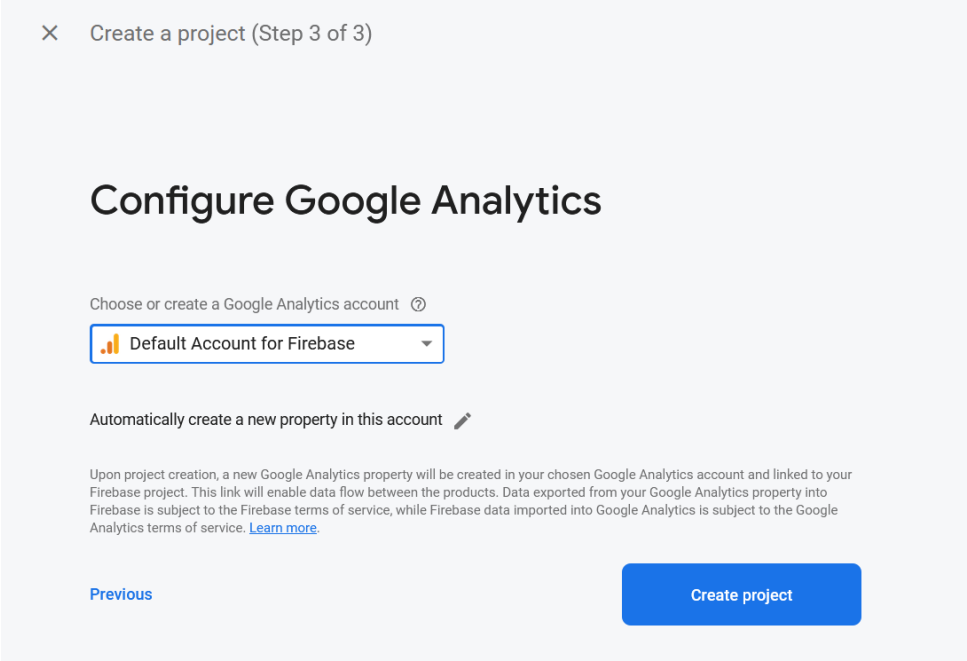


➢ Step 2: Add new project to Firebase platform

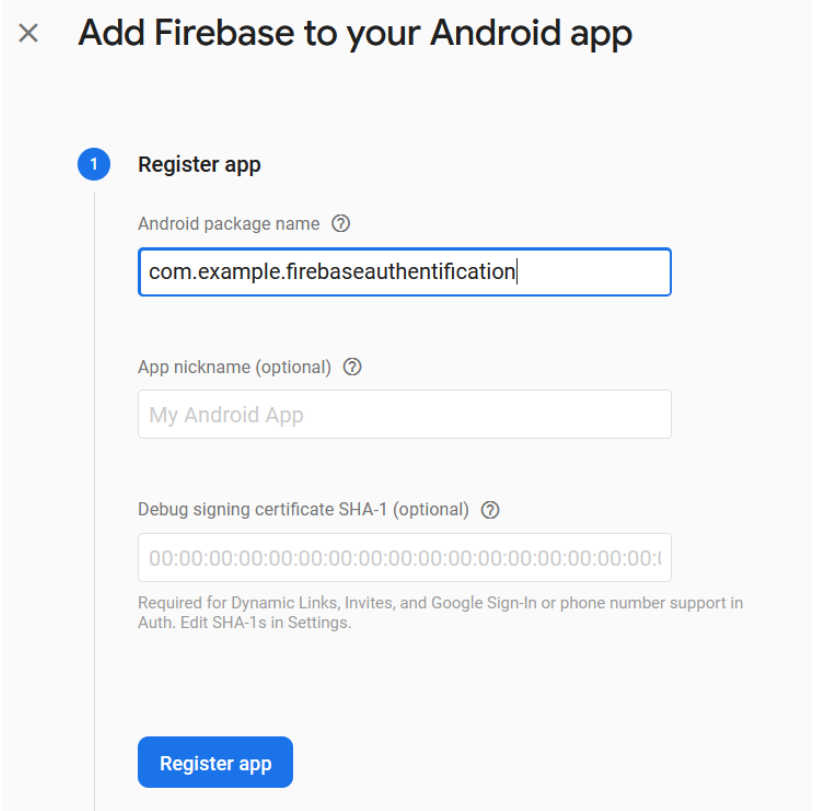
Go to the following link https://console.firebase.google.com , sign up with your google account, and then add a new project.



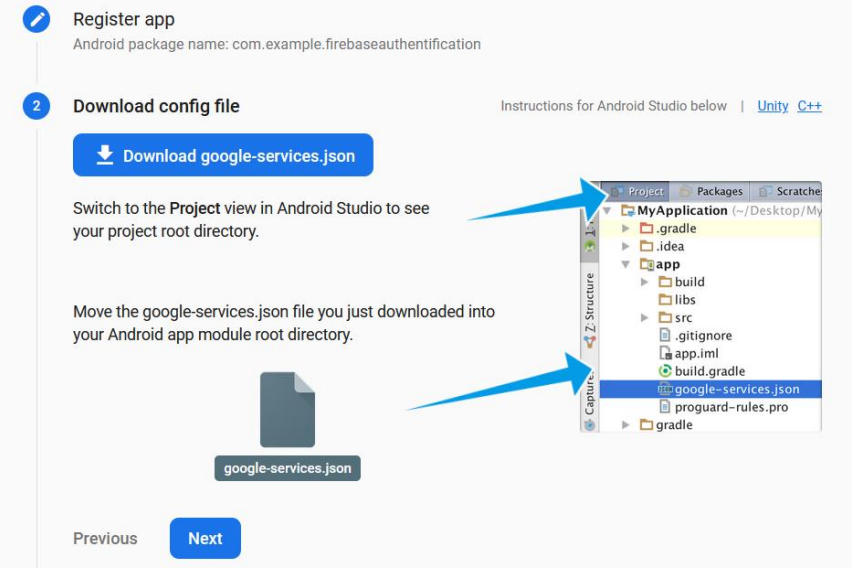
Continue the steps by giving a name to your firebase project and configure google analytics account:



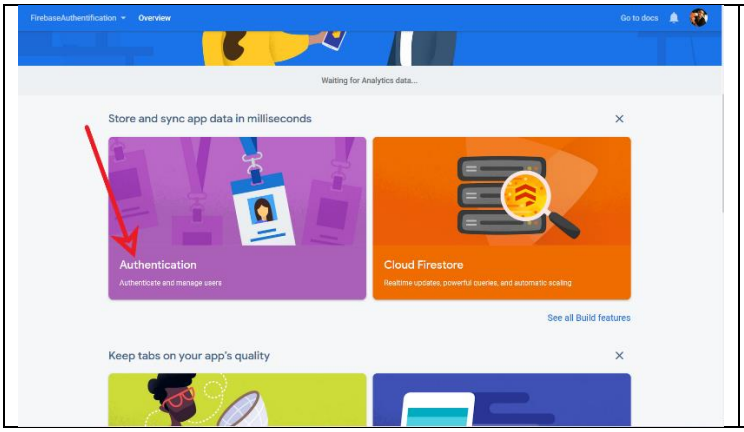
After creating the project, click on the android icon, and register your android app by giving the package name:

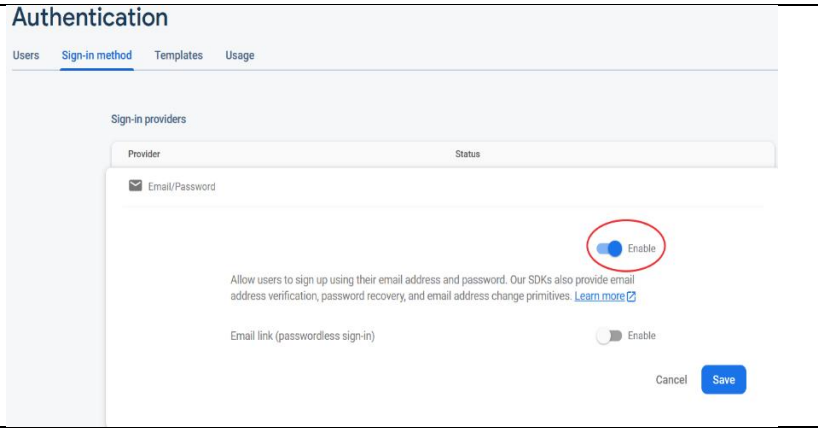


Register your app, and download the google-services.json file and insert it in “app” folder in your application



In the Firebase console click on the “Authentication” rubric and make sure you enable the “Email/password” option, as the screenshot below illustrates:

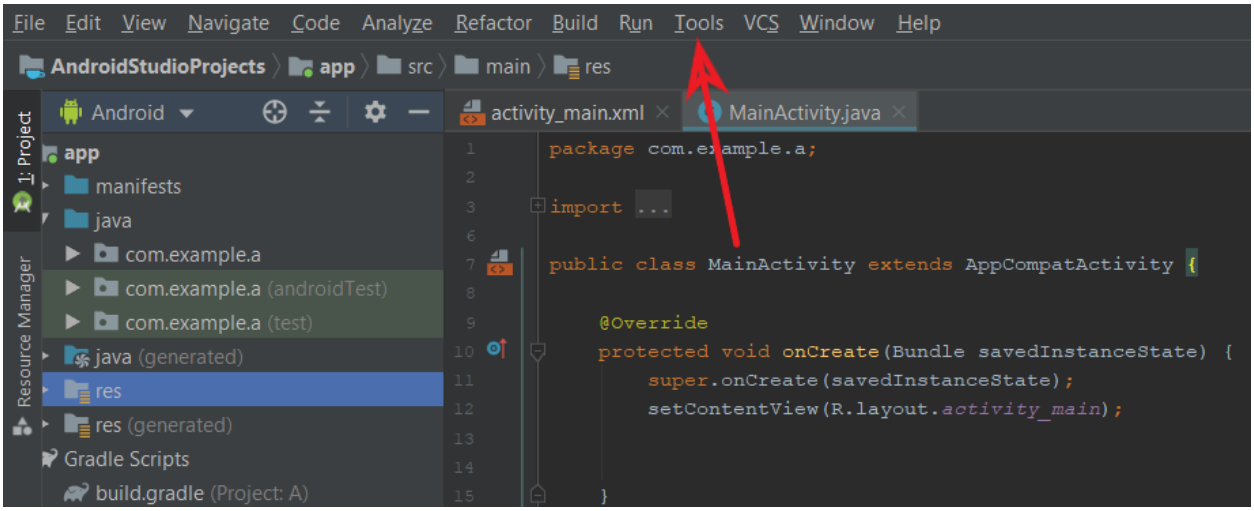




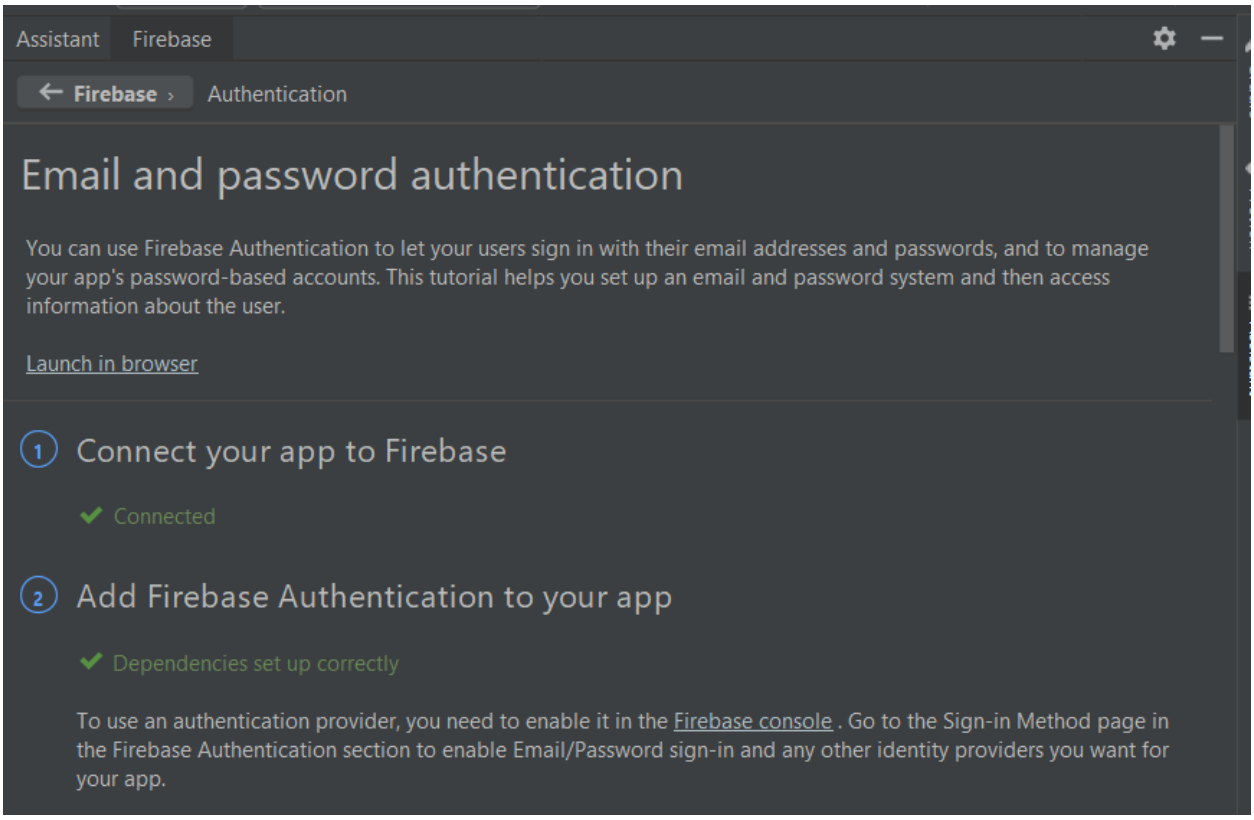
Save the changes and close the window.

- **Step 3: Set up the dependencies in your application:**

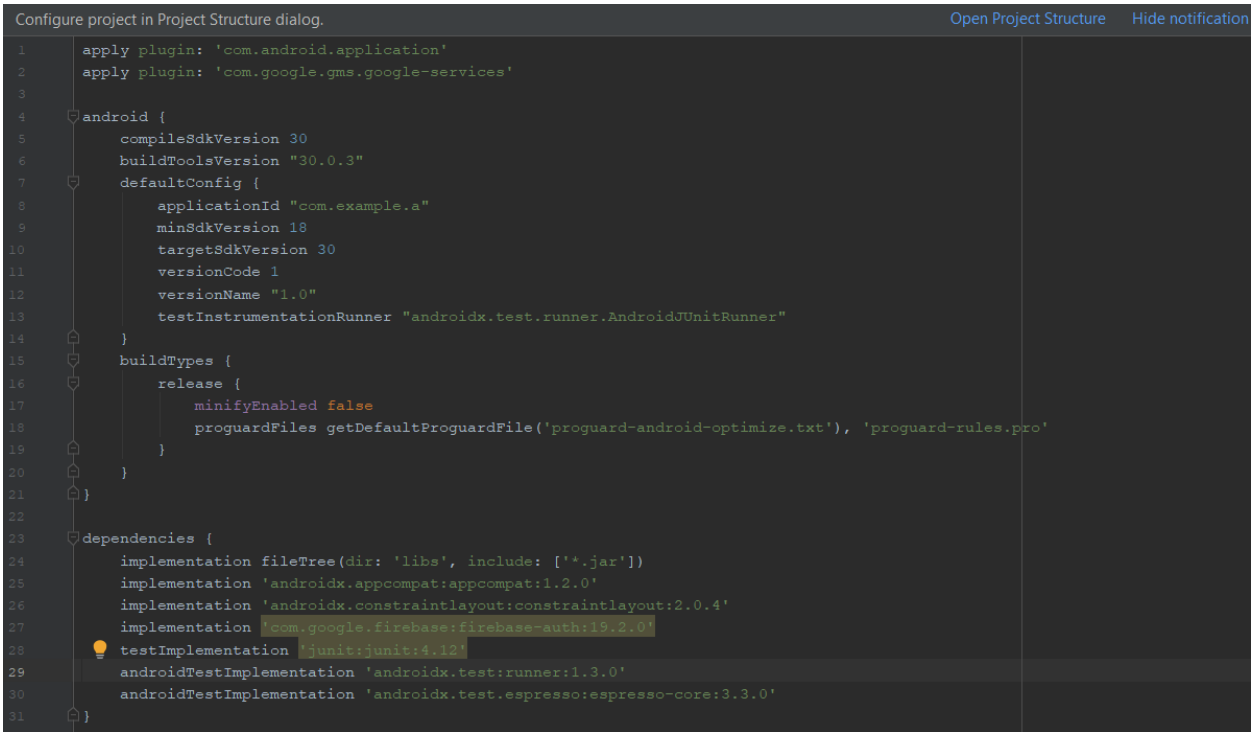
On android studio on the toolbar, open Tools and click on Firebase



Go to Authentication, chose “email and password authentication”, connect your project to firebase.



The google service plugins and firebase authentication implementation shell be added automatically on your gradle files.



Otherwise, you can add them manually on the build.gradle(Module:app):

```
apply plugin: 'com.google.gms.google-services'
```

```
implementation 'com.google.firebase:firebase-auth:19.2.0'
```

PS: Don’t forget to sync the project

- **Step 4: Design the application layouts:**

On the layout folder, create four xml files for each activity:

- activity_sign_in.xml
- activity_sign_up.xml
- activity_welcome.xml
- activity_forgot_password.xml

each file represents the layout design of the four activities.

The code of each file will be attached with this guide.

- **Step 5: Implement the java classes for the different activities:**

Now we have to implement the backend of the application, to do so we will be creating four activities: sign in, sign up, welcome and forgot password.

Go and create four java classes:

- SignInActivity.java
- SignUpActivity.java
- ForgotPasswordActivity.java
- WelcomeActivity.java

PS: The code of each class will be in the attached files.

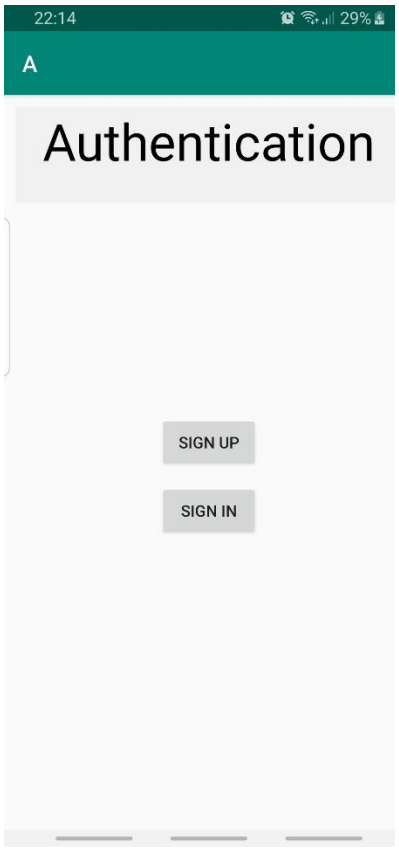
make sure you build your project!

➢ Step 6: Run and test your App:

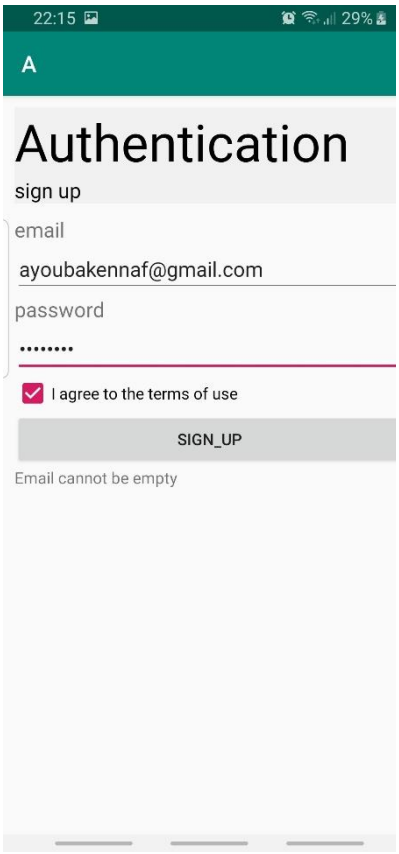
Press Ctr+ F9 to build the project and then connect your smartphone or your emulator and then

press Shift + F10 to run the project.

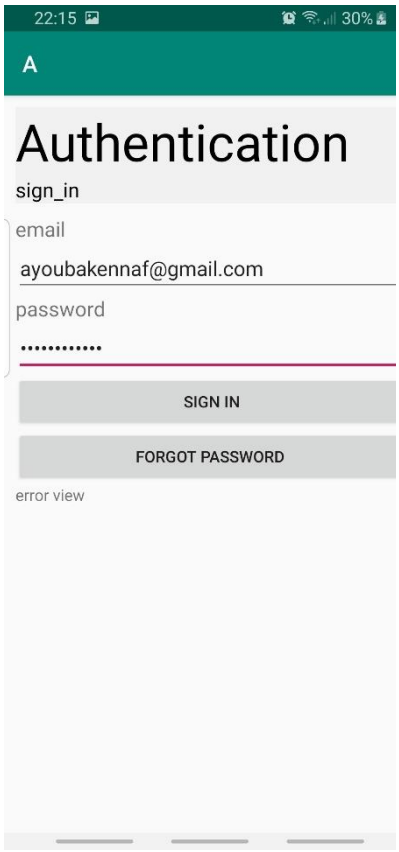
Screenshots of the application:



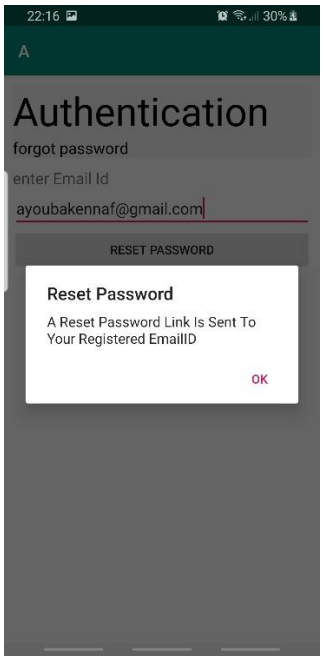
Welcome Page



Sign up page



Sign in page



Reset password page

Verification mail:

Hello,

Follow this link to verify your email address.

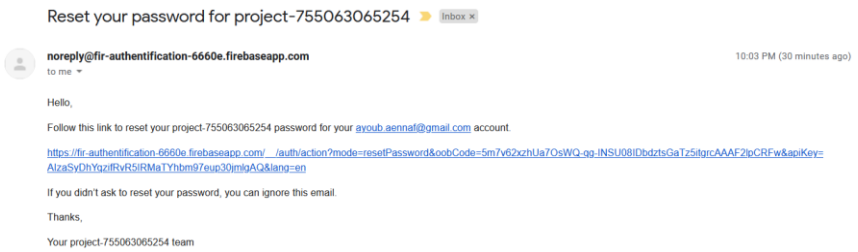
https://fir-authentification-6660e.firebaseapp.com/__/auth/action?mode=verifyEmail&oobCode=libwp5BUu3ylyiquAAo9uQUzId_vxfw8xPb7rdA8J6UAAAF2lo276A&apiKey=AIzaSyDhYqzifRvR5lRMaTYhbm97eup30jmlgAQ&lang=en

If you didn't ask to verify this address, you can ignore this email.

Thanks,

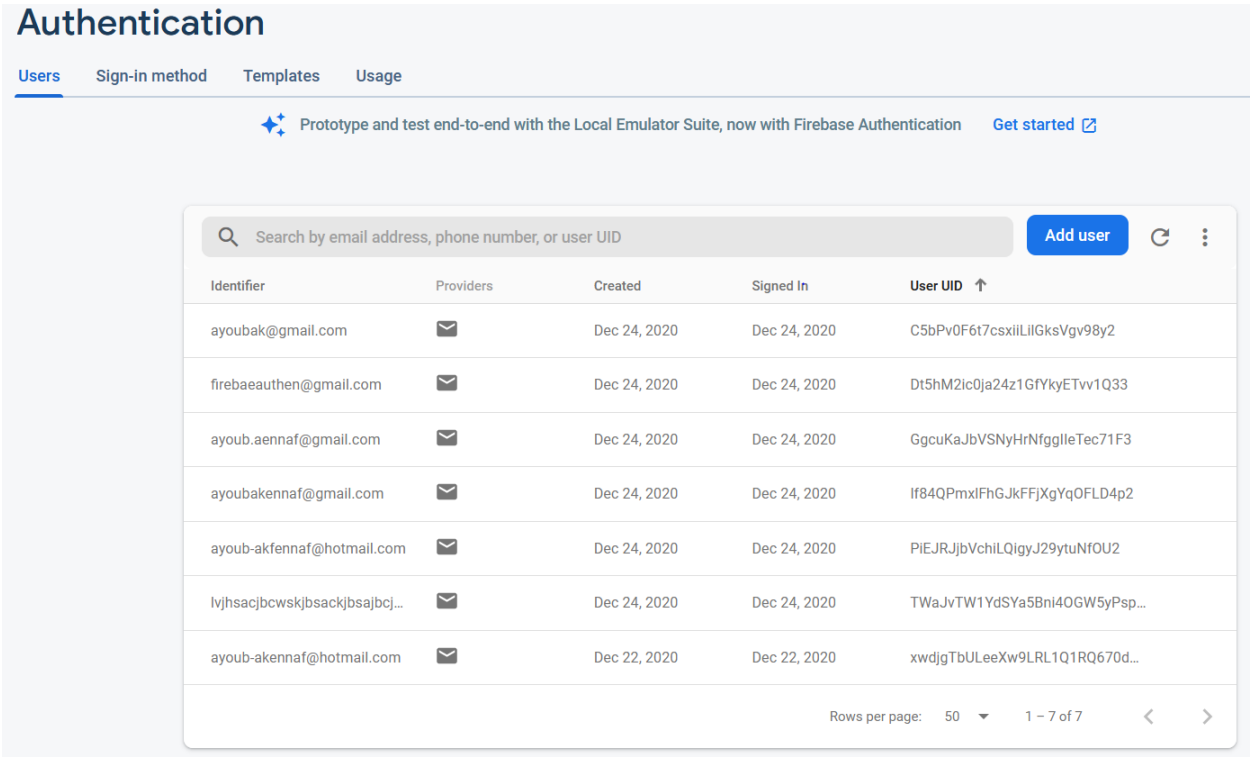
Your project-755063065254 team

Reset Password mail:



➢ Step 7: Check the Data persistence

On Firebase console connect to your account and access the authentication rubric, you will find all the application's users,



Documentation:

- **Firebase documentation: https://firebase.google.com/docs**

- **Android studio documentation : https://developer.android.com/docs**